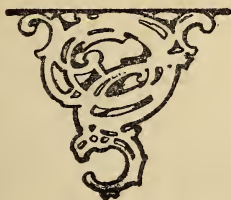


# *BUILDINGS*



Ordinance No. 2000, adopted  
by the City Council  
July 12, 1912

## ORDINANCE NO. 2000.

AN ORDINANCE to regulate the construction, alteration, maintenance, repair and removal of buildings within the City of Des Moines.

*Be It Ordained by the City Council of the City of Des Moines:*

Section 1. No person shall erect or place any building or part of any building within the fire limits of the City of Des Moines, as now or hereafter established, or make any repairs to or alterations in any building or buildings without first having obtained a permit therefor from the Building Inspector upon examination of plans and specifications which shall have been approved by the Fire Marshal and the Smoke Inspector in so far as they relate to the requirements for smoke prevention and safety from fire, copies of which permit shall, immediately after being granted, be filed with the Fire Marshal and the Smoke Inspector, and the applicant for such permit shall thereupon file a complete set of plans and specifications of such building, repairs or alterations with the Building Inspector, and to remain on file until such improvements have been completed, and in case of return of said plans and specifications they shall be accompanied by a certificate that the work has been completed in accordance therewith and a record thereof kept in the office of the Building Inspector; provided, however, that in case the repairs or alterations do not exceed in total cost the sum of Five Hundred (\$500.00) Dollars, then no such plans and specifications need be filed. In case the cost exceeds Five Hundred (\$500.00) Dollars then such plans and specifications shall be filed as above required and shall state in addition to other necessary facts the amount of increased floor load, if any, that is to be carried, the method of strengthening the walls and floors, all of which shall have the approval of the Building Inspector before said repairs or alterations can be made.

Sec. 2. The outer and partition walls of all such buildings shall conform in thickness to the tables set forth in Section 3 of this ordinance, and all buildings and additions thereto hereafter erected within the fire limits

of the City of Des Moines shall have the outer walls constructed of either cement stone, brick, stone or iron; if of iron it shall be supported upon steel frame or support of other noncombustible materials. All roofs shall be covered with tile, slate, metal, composition of gravel, or other noncombustible material. The outside walls shall be on a foundation of brick, stone, or cement stone, not less than twelve inches in thickness for buildings of the warehouse class, and not less than eight inches for buildings to be used for residences and other purposes.

The provisions of this section and this ordinance shall apply to all buildings hereafter constructed within the corporate limits of the City of Des Moines; provided, however, that the Building Inspector shall issue permits to all persons making proper application therefor for the erection of frame buildings outside of the fire limits to be used for either dwelling or business purposes.

Sec. 3. The enclosing and division walls of all buildings within the fire limits shall not be less in thickness in inches than as set forth in the following tables, the figures in the first column designating the thickness of the first story wall, etc.

*Walls for Warehouse Class.*

The expression, "Walls for warehouse class," shall be taken to mean and include walls for the following buildings:

Armories, barns, breweries, carriage houses, churches, cooperage shops, court houses, factories, foundries, garages, jails, libraries, light and power houses, machine shops, markets, mills, museums, observatories, office buildings, police stations, printing houses, public assembly buildings, pumping stations, railroad buildings, refrigerating houses, slaughter houses, stables, stores, theatres, warehouses, wheelwright shops.

For buildings hereafter erected in the warehouse class, 25 feet or less in width, between the walls or bearings, the minimum thickness of all independent surroundings or dividing walls in the same carrying the loads of floors shall be made in accordance with the following tables:

## BUILDING ORDINANCE

*Warehouse Class.*

Height.	Basement—Stories.										
	0	1	2	3	4	5	6	7	8	9	10
One story .....	16	12									
Two stories .....	16	12	12								
Three stories .....	16	16	12	12							
Four stories .....	20	16	16	16	12						
Five stories .....	24	20	16	16	16	12					
Six stories .....	28	24	20	20	20	16	16				
Seven stories .....	28	24	24	20	20	20	16	16			
Eight stories .....	32	24	24	24	20	20	20	16	16		
Nine stories .....	32	28	24	24	24	20	20	20	16	16	
Ten stories .....	32	28	28	24	24	24	20	20	20	16	16

*Walls for Dwelling House Class.*

The expression, "Walls for dwelling house class," should be taken to mean and include walls for the following buildings:

Apartment houses, apartment hotels, asylums, club houses, convents, dormitories, dwellings, hospitals, hotels, laboratories, lodging houses, parish buildings, schools, studios, tenements.

For buildings hereafter erected in the dwelling house class, the minimum thickness of all independent surrounding and dividing walls in the same, carrying the loads of floors and roofs, shall be made in accordance with the following table:

One .....	12	12									
Two .....	12	12	12								
Three .....	16	12	12	12							
Four .....	16	16	12	12	12						
Five .....	20	16	16	12	12	12					
Six .....	20	16	16	16	12	12	12				
Seven .....	24	20	20	16	16	12	12	12			
Eight .....	24	20	20	20	16	16	12	12	12		
Nine .....	28	24	20	20	16	16	16	12	12	12	
Ten .....	28	24	24	20	20	20	16	16	16	12	12

*Curtain Walls.*

1. A curtain wall is a wall which does not support floor or roof loads, and may be used either as an interior or exterior wall.

2. All party walls of skeleton construction shall have curtain walls of brick, not less than twelve inches thick.

3. All outside walls of skeleton construction or of reinforced concrete piers and girders shall have curtain walls which may be of masonry, terra cotta, concrete or reinforced concrete. If built of masonry or terra cotta, such walls must not be less than twelve inches thick, and if built of concrete not less than six inches thick.

Provided that no panel of said wall between steel or reinforced concrete members of structure shall be more than 20 feet in height by 25 feet in width.

Curtain walls shall be thoroughly anchored to the iron or steel or reinforced concrete structural members, and whenever the weight of such walls rests upon beams, piers or columns, such beams, piers or columns shall be made strong enough in each story to carry the weight of wall resting upon them without reliance upon the support of walls below them.

4. A curtain wall of masonry enclosed laterally between iron, steel or reinforced concrete columns without intermediate supports shall be not less than sixteen inches thick for the lower 60 feet above the lowest ground line, and twelve inches thick from 60 feet height upward, not to exceed a total height for both thicknesses of 125 feet.

Provided that said curtain wall shall not exceed 20 feet in width between iron, steel or reinforced concrete columns.

When the above walls are used for party walls in non-fireproof buildings the ends of the beams shall rest on corbled ledges, or shall be staggered; or the walls shall be increased in thickness, so that all joists, beams and other woodwork shall have at least four inches of masonry or brick work between. When used for bearing party walls in fireproof buildings no portion of the walls shall be less than the full thickness given for outside walls, except that when each story or series of stories not to exceed the heights given below shall be carried on steel or concrete lintels. If any story exceeds the height as stated in the following section the thickness of walls shall be increased as stated in such section.

*Clear Span Thickness.*

If there is to be a clear span of over twenty-five feet between the bearing walls, such walls shall be four inches thicker than in this section specified, for every twelve and one-half feet, or fraction thereof, that said walls are more than twenty-five feet apart, or shall have instead of the increased thickness such piers or buttresses as, in the judgment of the Building Inspector, may be necessary.

*Height of Stories.*

Sec. 4. The height of all stories for all given thicknesses of walls shall not exceed:

One story—16 feet in the clear.

Two stories—14 feet in the clear.

Three stories—12 feet in the clear.

Four and upper stories—11 feet in the clear.

And if any story exceed the foregoing heights, the walls of any such story, and all walls below that story shall be increased four inches in thickness for each multiple of the height given.

*Defining Height of Story.*

The height of the story shall be the perpendicular distance from the top of the finished floor in one story to the under side of the finished ceiling in the same story.

*Meaning of Stories.*

The first story shall be taken to mean the story of the floor which is first above the basement. The upper story shall be taken to mean the stories the floors of which are above the first story numbered in regular succession counting upwards.

*Meaning of Basement and Cellar.*

A basement shall be taken to mean that portion of a building the floor of which is below the curb level at the center of the front of the building, and not more than three-fourths of the height of said portion measuring from floor to ceiling. A cellar shall be taken to mean the lowest portion of a building, the floor of which is below the curb level at the center of the front of the building,

more than three-fourths of height of said portion measuring from the floor to the ceiling.

### *Roofs.*

All mansard roofs and all others having a pitch of one-third or over shall be considered a story.

Sec. 5. Division walls shall be constructed of brick, stone, or cement stone, or iron, and shall extend from the extreme front to the extreme rear of the enclosing walls, and shall extend at least three feet above the roof.

Sec. 6. All joists or timbers entering a party wall or a division wall from the opposite sides shall have at least four inches of solid brick work, stone or cement stone between the ends of such joists or timbers.

Sec. 7. All gutters shall be made of metal.

Sec. 8. No cornice shall be made of wood, except in dwelling houses that are not more than two stories high.

Sec. 9. No wall, nor any part of any wall, shall be built upon any wooden beam, girder or support. No chimney shall be built upon wood work but shall be built from the ground up or rest on masonry walls.

Sec. 10. All chimneys for residences shall be constructed of sand-brick of medium burnt clay brick to the roof line, and of hard, well burnt brick above the roof line, and all chimneys shall extend at least three feet above the highest point thereof; and all chimneys for power or pressure heating plants shall comply as to height and area with the requirements of the Smoke Inspector. All joints shall be struck smooth inside and out and shall be thoroughly filled with mortar. All chimneys shall be constructed as nearly perpendicular as possible without square offsets and shall be wholly free from wood work. Chimneys for stoves shall be at least 8x8 inches, inside measurement. All chimneys shall either have the exterior walls at least eight inches thick or shall be lined with well burnt clay or terra cotta chimney lining set up with close-fitting joints in fire clay, and all chimneys for low pressure heating plants, or furnaces shall be constructed of medium burnt brick to be laid in cement mortar of first class with all joists well filled with mortar and

struck smooth inside and out. Any person violating this section shall tear down such chimneys and rebuild them from the bottom.

Sec. 11. No flue or chimney shall be less than eight inches in its smallest inside measurement. When a chimney contains more than one flue the flues shall be separated by at least four inches of solid brick work. Every flue shall be provided at its lowest extremity with an opening for the removal of soot, and all such openings shall be provided with metal stoppers or soot-drawers.

Sec. 12. All open fire places or grates shall have the hearth laid on trimmer arches of brick or iron girders.

Sec. 13. All elevator shafts shall be enclosed with brick walls, the uppermost part for 50 feet being not less than eight inches thick and increasing the lower part by four inches, or with a suitable frame work of iron and burnt clay filling or with such other fireproof material and form of construction as in the opinion of the Fire Marshal shall be equally good, and all door openings shall be hung with doors of metal frames and wire glass, and no staircase or other part of the building shall be inside of the said elevator wall. No wooden signs shall be placed on any building above the sills of the second story window.

Sec. 14. It shall be unlawful to repair or alter any frame building within the fire limits of the City of Des Moines if, in the opinion of the Fire Marshal, such building has been damaged from any cause or decayed to the extent of 50 per cent of the cost of a similar new building, and any such building shall be torn down and removed if in a dangerous condition when so ordered by the Fire Marshal; provided, however, that any frame building not damaged from any cause or decayed, in the judgment of the Fire Marshal, to the extent of 50 per cent of the cost of a similar new building may be repaired or altered; provided, however, that no such frame building shall be altered for use in any manner by this ordinance prohibited for new buildings of similar construction.

Sec. 15. Whenever it becomes necessary to tear down and remove a building, as provided in the preceding section, it shall be the duty of the Fire Marshal to give to the owner, or his agent, notice in writing that unless such owner tear down and remove such building within twenty days from the service of such notice the same will be torn down and removed by or under the direction of said Fire Marshal. In case neither the owner nor his agent can be found within the City of Des Moines or County of Polk, then such notice may be served upon the occupant of the building, and if the building is unoccupied, then it will be a sufficient service of said notice to post the same on the outside of said building. If the owner, after such service of notice as above provided, fails to tear down and remove such building within the time specified, then it shall be the duty of the Fire Marshal to proceed to tear down and remove such building, and he may call upon the Superintendent of the Department of Streets and Public Improvements for such assistance as he may need to carry out the purpose of this section. The expense and cost of such work upon the part of the Fire Marshal and the Department of Streets and Public Improvements shall be assessed against the property upon which said building was erected, and collected in the same manner as is provided by law for the assessment and collection of the cost and expense of other public improvements chargeable against abutting property.

Sec. 16. It shall be unlawful to remove, or cause to be removed, any frame building situated within the fire limits to any other location.

Sec. 17. All buildings of whatever description hereafter erected or repaired in the City shall be done under the supervision and inspection of the Fire Marshal in so far as it may be necessary to secure greater safety from destruction by fire, and to this end it shall be the duty of any person desiring to build or repair any buildings to apply for a permit, and to follow such reasonable instructions as the Fire Marshal may give regarding the height and size of chimneys, flues, the protection of all furnaces, heating pipes, and all other arrangements desired to be used in heating such building, or in creating a heat for mechanical or manufacturing purposes.

Sec. 18. No buildings of any description containing new plants or any reconstruction of old plants for producing power and heat, or either of them, either for sale or manufacturing purposes, or any new chimney, furnace or fireplace connected with such building and plant, or any steam plant shall be hereafter erected or maintained in the City until plans and specifications of such plant, chimney, furnace, fireplace or steam plant, as the case may be, have been filed in the office of and approved by the Smoke Inspector and a permit issued by him therefor. All controversies as to the sufficiency of such plans and specifications and provisions made therein for fuel combustion shall be settled and determined as provided in Section 7 of Ordinance No. 1870, known as the "Smoke Ordinance."

Sec. 19. The dead loads in all buildings shall consist of the actual weight of walls, floors, roofs, partitions and all permanent construction.

The live and variable loads shall consist of all loads other than dead loads.

Every floor shall be of sufficient strength to bear safely the weights to be imposed thereon in addition to the weight of the materials of which the floor is composed; if to be used as a dwelling house, tenement house, apartment house, hospital, hotel or lodging house, each floor shall be of sufficient strength in all its parts to bear safely upon every square foot of its surface not less than fifty pounds; if to be used for office purposes, not less than seventy-five pounds upon every square foot above the first floor, and for the latter floor one hundred and twenty-five pounds; if it is to be used as a school or as a place of instruction, not less than sixty-six pounds in rooms with fixed seats and in halls and corridors not less than one hundred and twenty pounds upon every square foot; if to be used for stable or carriage house purposes, not less than eighty-five pounds upon every square foot; if to be used as a place of public assemblage, not less than one hundred and twenty-five pounds upon every square foot; if to be used for ordinary stores, light manufacturing and light storage, not less than one hundred pounds upon every square foot; if to be used as a store where heavy materials are to be kept or stored, warehouse, factory or other manufac-

turing or commercial purpose, not less than two hundred pounds upon every square foot. All calculations for the requirements of this section shall be based upon Part Twenty-three (23) of the Building Code recommended by the National Board of Fire Underwriters.

The strength of factory floors, intended to carry running machinery, shall be increased above the minimum given in this section in proportion to the degree of vibratory motion liable to be transmitted to the floor, as may be required by the Building Inspector.

The roofs of all buildings shall be proportioned to bear safely thirty pounds upon every square foot, measured horizontally, in addition to the weight of the materials composing the same.

For sidewalks over areaways, the live loads shall be taken to be three hundred pounds upon every square foot, measured on a horizontal plane.

Footings and foundations shall be constructed of stone, hard burned brick or concrete, of sufficient thickness and size as determined by good building practice, and shall be proportioned to the actual load they will have to carry in the completed and occupied building, as follows:

Warehouse and factory buildings shall be proportioned to carry the full dead load and the full live load.

Stores and buildings for light manufacturing shall be proportioned to carry the full dead load plus sixty (60) per cent of the live load.

Churches, school houses, and places of public amusement shall be proportioned to carry the full dead load plus fifty (50) per cent of the live load.

Office buildings, hotels, dwellings, apartment houses, lodging houses and stables, shall be proportioned to carry the full dead load plus not less than thirty (30) per cent of the live load.

Vertical supports shall be of sufficient strength to bear safely the weight of the portion of each and every floor depending upon it for support in addition to the weight required, as before stated, to be supported safely upon said portion of said floors.

For the purpose of determining the carrying capacity of footings in dwellings, office buildings, stores, stables, public buildings and factories, when over five stories in height, reduction of the live loads shall be permissible as follows: For the roof the full live loads shall be used; for each succeeding lower floor, it shall be permissible to reduce the live load by five (5) per cent until fifty (50) per cent of the live load fixed by this section is reached, when such reduced loads shall be used for all remaining floors.

Sec. 20. All that district west of the Des Moines river, south of the center of Grand avenue, east of the center of Tenth street and north of the center of Vine street, shall be known as the congested district. In the congested district there shall hereafter be erected no building of three stories or more of other than fire proof construction. Fire proof buildings shall be constructed with walls of brick, stone, Portland cement concrete, iron or steel in which wood beams or lintels shall not be placed, and in which the floors and roofs shall be constructed with rolled wrought iron or steel floor beams, spaced not more than five feet on centres, for stores, warehouses and factory buildings, and for all other buildings not more than eight feet on centres, and otherwise so arranged as to spacing and length of beams that the load to be supported by them, together with the weights of the materials used in the construction of the said floors, shall not cause a greater deflection of the said beams than one-thirtieth of an inch per foot of span under the total load. The beams shall be tied together at intervals of not more than eight times the depth of the beam with suitable tie-rods.

Between the floor and roof beams shall be placed brick arches springing from the lower flanges of the steel beams, or the spaces between the beams may be filled with hollow tile arches of hard-burnt clay or porous terracotta, or arches of Portland cement concrete, plain or reinforced with metal, or such other fireproof composition may be used, provided that in each and all cases the strength and method of construction shall conform to good building requirements.

The stairs and staircase landings shall be constructed of brick, stone, Portland cement concrete, iron or steel, or a combination of these materials.

No woodwork or other inflammable material shall be used in any of the partitions, furrings or ceilings in any such fireproof buildings, excepting, however, that when the height of the building does not exceed eight stories, not more than one hundred feet, the doors and windows and their frames and trims, the casings, the interior finish when filled solidly at the back with fireproof material, and the floor boards and sleepers directly thereunder, may be of wood, but the space between the sleepers shall be solidly filled with fireproof materials extending up to the underside of the floor boards.

When the height of a fireproof building exceeds eight stories, or more than one hundred feet, the floor surfaces shall be of stone, cement, tiling or similar incombustible material. All outside window frames and sash shall be of metal.

The inside window frames and sash, doors, trim and other interior finish may be of metal or of wood covered with metal or of such other incombustible material that may be approved by the Commissioner of Buildings.

All hall partitions or permanent partitions between rooms in fireproof buildings shall be built of fireproof material and shall not be started on wood sills, nor on wood floor boards, but be built upon the fireproof construction of the floor and extend to the fireproof beam filling above.

But this shall not preclude the use of wood block under each iron upright or stud in partitions constructed of iron uprights and lathed with iron, or filled in solidly between the iron studs or uprights with approved fireproof material, provided said wood block or cushion which is to allow for the possible lengthwise expansion of the uprights by heat does not exceed in thickness one-tenth of an inch to the foot of the height of said uprights.

The tops of all door and window openings in such partitions shall be at least twelve inches below the ceiling line.

In all fireproof partitions, other than when made of solid brickwork, the openings for doors and windows in same shall be framed on both sides with iron studs or uprights secured at top and bottom to the floor beams, and

with like iron horizontals between the said uprights for the window openings and door heads.

In all fireproof buildings, other than stores, warehouses and factories, if exceeding three stories or forty feet in height, the stair halls shall be inclosed on each story with fireproof material, same as required for elevators, to so form an inclosure the floor area of which shall not be more than three times the united area of the floor openings for the elevators and stairs.

All buildings in the City of Des Moines of fireproof construction shall be exempted from twenty per cent of their value for assessment purposes for a period of five years after the erection thereof.

Sec. 21. In all fireproof buildings and in all other buildings of three or more stories in height, all windows in alleys or elsewhere within thirty feet of the walls of any other building, or within thirty feet of any outside wall of same building, shall be made of metal frames and sash, and wire glass.

Sec. 22. No lighted candle, lamp, or any other open artificial light shall be used in any stable, building, or any other place where straw, hay, hemp, cotton, flax, shavings, oil or gasoline, or any other combustible materials shall be stored.

Sec. 23. No metal pipe for any stove, fire place, boiler, or other heat producing apparatus shall be put in or used unless it is separated from adjacent wood work by a space of at least twelve inches. All such pipes over fifteen feet in length shall be safely stayed by a wire or metal rod.

Sec. 24. No person shall carry fire in or through any lot unless the same be placed in a covered pan or vessel; and no person shall build or cause to have built a bonfire less than fifty feet from any building, and nowhere within the fire limits.

Sec. 25. No ashes shall be kept in or deposited in any part of the fire limits of the City of Des Moines unless the same be kept or deposited in a closed iron can or vessel, or in a brick or stone ash-house thoroughly fire proof.

Sec. 26. All buildings within the fire limits used for hotels and factories of three or more stories shall be equipped with a stand-pipe and hose connection to reach any part of the said floors.

Sec. 27. All ordinances and parts of ordinances inconsistent with this ordinance are hereby repealed.

Sec. 28. This ordinance being deemed urgent and necessary for the preservation of the public peace, health and safety, shall be in full force and effect from and after its passage and publication, as provided by law.

Passed July 12, 1912.

Signed July 12, 1912.

JAMES R. HANNA, Mayor.

Attest: HORACE SUSONG, City Clerk.

I, Horace Susong, City Clerk of the City of Des Moines, hereby certify that the above and foregoing is a true copy of an ordinance passed by the City Council of said City at a meeting held July 12, 1912, signed by the Mayor July 12, 1912, duly recorded and published as provided by law, July 24, 1912.

HORACE SUSONG, City Clerk.





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